AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"),

Star Island Corporation

is authorized to discharge from the Wastewater Treatment Plant located at

Star Island (Isles of Shoals)
Rye, New Hampshire 03870

to receiving water named

Atlantic Ocean with the Hydrologic Basin Code 01060003

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on July 1, 2003.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on November 18, 1996.

This permit consists of **10** pages in Part I including effluent limitations, monitoring requirements, etc., **Attachment A, Marine Chronic Toxicity Test Protocol & Procedures**, **Attachment B, Marine Acute Toxicity Test Protocl & Procedures, Sludge Compliance Guidance** dated November 4, 1999 (**72** pages), and **35** pages in Part II including General Conditions and Definitions.

Signed this 23rd day of April, 2003

/Signature on File/
Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
EPA-New England

Boston, Massachusetts

Part I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning **ON MAY 1ST and LASTING THROUGH TO OCTOBER 31ST OF EACH YEAR**, the permittee is authorized to discharge from outfall serial number 001 treated domestic (sanitary) wastewater effluent into the Atlantic Ocean. Such discharges shall be limited and monitored by the permittee as specified below except for that discharge described in **Part I. D. SPECIAL CONDITIONS**, Discharge of Unused Portion of Uncontaminated Storage Waters. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations						Monitoring Requirements	
	Average Monthly	Average Weekly (lbs/day)	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow; MGD	-------	-------	-------	Report	-------	Report	Daily	Calculation[1]
BOD_5	3.8	5.6	6.3	30 mg/l	45 mg/l	50 mg/l	2/Week[2]	24-Hour Composite
TSS	5.6	8.1	8.1	45 mg/l	65 mg/l	65 mg/l	2/Week[2]	24-Hour Composite
pH Range[3]	6.0 to 8.0 Standard Units (S.U.) (See **Part I.F.**1.a.)						Daily	Grab
Total Coliform Bacteria[3,4,5]; Colonies per 100 ml	70		-------			Report[6]	5/Week	Grab
Enterococci Bacteria[3,4,7]; Colonies per 100 ml				35	-------	104	3/Week	Grab
Total Residual Chlorine[4,8]; mg/l				0.75	-------	1.0	2/Day	Grab
Whole Effluent Toxicity LC50[9,10,11]; Percent Effluent				-------	-------	$*50*	*1/Year*	*24-Hour Composite*

See pages 3 and 4 for explanation of superscripts

EXPLANATION OF SUPERSCRIPTS APPLICABLE TO Part I.A.1. on page 2

(1) The effluent flow shall be measured (calculated) and recorded on a daily basis.

(2) The influent concentrations of both BOD_5 and TSS shall be monitored twice per month (2/Month) using a 24-Hour Composite sample and the results reported as average monthly values.

(3) State Certification Requirement (SCR). For pH, only the 8.0 S.U. limit is subject to SCR.

(4) Samples for the monitorings of Total Coliform bacteria, Enterococci bacteria and Total Residual Chlorine as described in Superscripts (5), (7) and (8) below shall be collected concurrently from the same parcel of treated effluent.

(5) Compliance with the "average monthly" limit for Total Coliform bacteria shall be determined by calculating the geometric mean. Additionally, over a monthly period, not more than 10 percent of the collected samples shall exceed a Most Probable Number (MPN) of 230 colonies per 100 milliliters for a 5-tube decimal dilution test. Total Coliform shall be tested using test method 9221B or 9222(B+B.5c) found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent Edition(s), as approved in 40 Code of Federal Regulations (CFR) Part 136.

(6) The permittee shall report the percentage of collected samples over a monthly period that exceeds a MPN of 230 colonies per 100 milliliters for a 5-tube decimal dilution test in order to judge compliance with that portion of the Total Coliform bacteria limit that reads, "over a monthly period, not more than 10 percent of the collected samples shall exceed a MPN of 230 colonies per 100 milliliters for a 5-tube decimal dilution test".

(7) Enterococci shall be tested using test method ASTM Enterococci Method D6503-99 using IDEXX Enterolert™ where ASTM stands for American Society for Testing and Materials. **Monitoring will not have to begin until the start of Calendar Year 2004 discharge season.**

Alternate analytical methods to ASTM Enterococci Method D6503-99 using IDEXX Enterolert™ may be approved by EPA-New England if requested in writing either by the permittee or by New Hampshire Department of Environmental Services, Water Division (NHDES-WD). Such a request should include the technical justification(s) as the basis for requesting this change. Such a request will be considered a minor modification to the permit. In addition, should a method for Enterococci be approved in 40 CFR Part 136, the permittee shall change to that method upon written notice from EPA-New England. Until written notice is received by certified mail from the EPA-New England indicating alternative method(s) have been approved including any approved in 40 CFR Part 136, the permittee is required to test for Enterococci as required in the respective permit.

(8) Total Residual Chlorine shall be measured using any one of the following three methods listed in a. through c.

a. DPD spectrophotometric (colorimetric). EPA No. 330.5 or Standard Methods [18th or subsequent edition(s) as approved in 40 CFR Part 136], No. 4500-Cl G.

b. DPD titrimetric (ferrous titrimetric). EPA No. 330.4 or Standard Methods [18th or subsequent edition(s) as approved in 40 CFR Part 136], No. 4500-Cl F.

c. Amperometric titration. EPA No. 330.1 or Standard Methods [18th or subsequent edition(s) as approved in 40 CFR Part 136], No. 4500-Cl D or ASTM No. D1253-86(92).

(9) All limit and monitoring requirements for Whole Effluent Toxicity (WET) shown in italics in ***Part I.A.****1. on page 2 and clarified in superscripts (9) through (11) on page 4 are not effective (activated) until written notice is received by certified mail from the EPA-New England (See* ***Part I.A****.2. on page 5 for further details). Upon activation, the permittee shall conduct annually, 48-hour static acute toxicity tests using the saltwater indicator species Mysid Shrimp (Mysidopsis bahia) and Inland Silverside (Menidia beryllina) (See* ***Attachment B****) beginning in the calendar year specified in the written notice. Toxicity test samples shall be collected and tests completed during the July-August peak discharge period reporting the results with the August Discharge Monitoring Report postmarked by September 15th.*

(10) This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including chemical specific limits such as for metals, if the results of the toxicity tests indicate the discharge causes an exceedance of any State water quality criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 CFR Section 122.62(a)(2).

(11) LC50 (lethal concentration 50 percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. The LC50 limit of ***"50 % or greater"*** *is defined as a sample which is composed of* ***50 % or greater*** *effluent, the remainder being dilution water (See A.1 on Page 2 of Part I and* ***Attachment B*** *of Part I). Therefore, a 50 % or greater limit means that a sample of 50 % or greater effluent shall cause no greater than a 50 % mortality rate in that effluent sample. The limit is considered to be a maximum daily limit.*

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

2. The permittee shall conduct a one-time "pass/fail" test for the chronic (and modified acute) toxicity using the saltwater indicator species Inland Silverside (*Menidia beryllina*) (**See Attachment A**). Toxicity test samples shall be collected using 24-Hour Composite samples and the test completed during the July-August 2003 peak discharge period reporting the results with the August Discharge Monitoring Report postmarked by September 15, 2003. If this one-time toxicity test demonstrates significant toxicity for survival and growth particularly in the later stages of the 7-day test period, then EPA-New England will activate, using a written notice sent by certified mail, the annual Whole Effluent Toxicity (WET) limit and monitoring requirements shown in italics in **Part I.A.**1. on page 2 and clarified in superscripts (9) through (11) on page 4.

3. The discharge shall not cause a violation of the water quality standards of the receiving water.

4. The discharge shall be adequately treated to insure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to insure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

5. The permittee's treatment facility shall maintain a minimum of 85 percent removal for both BOD_5 and TSS. The percent removal shall be based on a comparison of average monthly influent versus effluent concentrations.

6. When the average monthly effluent flow equals or exceeds 0.012 Million Gallons per Day (MGD) for each of three (3) consecutive months, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility is reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow is reached, or whenever treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements. **(Note: The average monthly effluent flow of 0.012 MGD is based on 80 % of the facility's average daily long-term design capacity of 0.015 MGD).**

7. The permittee may not introduce into the treatment works any pollutant(s) which cause Pass Through or Interference with the operation or performance of the treatment works. The terms "Pass Through" and "Interference" are defined in 40 CFR Section 403.3.

8. The permittee must provide adequate notice to both EPA-New England and the NHDES-WD of the following:

   a. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

   b. For purposes of this paragraph, adequate notice shall include information on:

      (1) the quantity and quality of effluent introduced into the treatment works; and

      (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

9. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

B. UNAUTHORIZED RELEASES TO THE TREATMENT WORKS

The following list of discharges to the treatment works's collection system and/or directly to the treatment works itself are strictly prohibited. They are:

1. Any waters or waste containing fats, wax, grease, or oils, whether emulsified or not, except grey-water discharges from food-related operations (preparation/serving/clean-up) may contain minimal quantities of oil and grease. Drains servicing any food preparation and/or food clean-up areas must have properly installed, operated and maintained grease traps;

2. Any floor, house-keeping and/or food-service cleaners except in concentrations and volumes that do not adversely affect the biological treatment works nor pass through its works;

3. Any waters or wastes containing photo processing/developing chemicals and/or solutions; and

4. Any material considered or defined as hazardous waste in RCRA subtitle C.

C. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal & state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either the state (Env-Ws 800) or federal (40 CFR Part 503) requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to facilities which perform one or more of the following use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil.

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill.

   c. Placement of sludge in a municipal solid waste landfill (See 40 CFR Section 503.4).

   d. Sewage sludge incineration in a sludge only incinerator.

4. The 40 CFR Part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge (lagoons-reed beds), or are otherwise excluded under 40 CFR Section 503.6.

5. The permittee shall use and comply with the attached Sludge Compliance Guidance document to determine appropriate conditions. Appropriate conditions contain the following elements.

   General requirements
   Pollutant limitations
   Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
   Management practices
   Record keeping
   Monitoring
   Reporting

   Depending upon the quality of material produced by a facility all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction for the permittee's chosen sewage sludge use or disposal practices at the following frequency. This frequency is based upon the amount of sewage sludge generated at the facility in dry metric tons per year.

less than 290	1/Year
290 to less than 1,500	1/Quarter
1,500 to less than 15,000	6/Year
15,000 plus	1/Month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR Section 503.8.

8. The permittee shall submit an annual report containing the information specified in the attached Sludge Compliance Guidance document. Reports are **due annually by February 19th**. Reports shall be submitted to both addresses (EPA-New England and NHDES-WD) contained in the reporting section of the permit.

D. SPECIAL CONDITIONS

pH Limit Adjustment

The permittee may submit a written request to the EPA-New England requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 CFR Part 133) for this facility. The permittee's written request must include the State's approval letter containing an original signature (no copies). The State's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

Discharge of Unused Portion of Uncontaminated Storage Waters

Each October, the permittee is allowed to bypass its secondary biological treatment system (physical, biological and chemical components) with a one-time batch discharge through Outfall 001 of the unused portion of uncontaminated storage waters (captured rainwater, drinking water and saltwater pumped from the nearby Atlantic Ocean) as long as no substance has been added to those waters during their on-island storage. However, if any substance has been added to those waters while in on-island storage, this bypass provision is not applicable. All discharges of the unused portion of uncontaminated storage waters must pass through Outfall 001 hereby defined as that pipe through which treated effluent from Star Island's treatment works discharges into the Atlantic Ocean. This batch discharge is exempt from all requirements in **Part I.A.**1. (pages 2 through 4), **but is not exempt from other provisions in this permit.**

In addition, with each October's Discharge Monitoring Report (DMR), the permittee is required to submit a signed written statement certifying that the discharged waters were the unused portion of uncontaminated storage waters and were composed solely of captured rainwater, drinking water and saltwater to which no substance had been added while in on-island storage. With that certification statement, the permittee shall also include the approximate quantity (gallons) of each water type (captured rainwater, drinking water and saltwater) discharged, including date(s) and elapsed time (hours and minutes) needed to complete this discharge.

E. MONITORING AND REPORTING CONDITIONS

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period.

1. Signed and Dated original DMRs and all other reports or notifications required herein or in **Part II** shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114-8127

2. Duplicate signed copies of all items required in Section 1. immediately above shall be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
6 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

All verbal reports required in **Parts I** and **II** of this permit shall be made to both EPA and to NHDES-WD.

F. STATE PERMIT CONDITIONS

1. The permittee shall comply with the following conditions which are included as State Certification requirements.

    a. The pH range of 6.0-8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside of the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 CFR §133.102(c).

b. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).

c. If chlorine is used for disinfection, a recorder which shall continuously record the chlorine residual prior to dechlorination shall also be provided. Given that Star Island Corporation discharges in daily batches, the intent of the requirement to continuously record the chlorine residual could be met without the need for a continuous chlorine residual monitor, by reporting one representative grab sample result from each batch prior to dechlorination. All results shall be submitted with the monthly Discharge Monitoring Reports. All results of the chlorine residual analyses shall be maintained by the permittee for a period of no less than five (5) years.

d. In the event of a discharge of raw sewage or a bypass of the disinfection system, the permittee shall provide immediate notification to the New Hampshire Department of Environmental Services, Watershed Management Bureau at Pager No. 603/771-9826. This Pager Number is monitored 24-Hours a Day Seven (7) Days a Week.

2. This NPDES Discharge Permit is issued by the EPA-New England under Federal and State law. Upon final issuance by the EPA-New England, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.